Customer Churn Analysis – Databel Case Study

Contents

1. Introduction

Customer churn refers to the percentage of customers who stop using a company's services during a given period. In highly competitive industries such as telecommunications, understanding churn is essential because acquiring a new customer is often more expensive than retaining an existing one. Companies analyze churn data to identify patterns, improve customer satisfaction, and develop retention strategies.

This project focuses on analyzing customer churn data for a fictional telecom company, Databel, using Microsoft Excel. The objective was to explore customer behavior, identify the key drivers of churn, and provide actionable business recommendations based on data-driven insights.

2. Objectives

The primary goals of this project were:

- Prepare and clean customer-level data for analysis.

- Calculate overall churn rate and identify trends.

- Analyze demographic and behavioral factors influencing churn.

- Examine the impact of international plans and contract types.

- Build a clear and interactive Excel dashboard.

- Provide strategic recommendations to reduce churn.

3. Tools and Techniques Used

Tools

- Microsoft Excel

Techniques

- Data Cleaning and Validation

- Duplicate Row Identification

- Calculated Fields and Formulas

- Pivot Tables

- Conditional Formatting

- Data Segmentation

- Dashboard Design and Visualization

4. Dataset Description

Two datasets were provided:

1. **Databel – Customer**
   Contains individual customer-level information, including demographics, contract details, usage patterns, and churn status.

2. **Databel – Aggregate**
   Contains summarized views derived from the customer dataset. The primary analysis in this project was conducted on the customer-level dataset, as it allows more detailed segmentation and insight generation.

5. Data Preparation

Before performing the analysis, the dataset was prepared to ensure accuracy and reliability.

Steps included:

- Converting raw data into structured table format.
- Checking for and removing duplicate customer records.
- Verifying missing or inconsistent values.
- Creating calculated fields such as churn rate.
- Standardizing column names and formats.
- Organizing sheets into logical sections (Raw Data, Cleaned Data, Analysis, Dashboard).

This preparation ensured that all subsequent insights were based on clean and consistent data.

6. Key Metrics

- **Total Churned Customers: 1,766**
- **Overall Churn Rate: Approximately 27%**

These figures indicate that more than one quarter of customers left the service, highlighting a significant retention challenge.

7. Analysis and Insights

7.1 Churn Reasons

The most common reasons for churn were related to competitors, particularly:

- Better Devices

- Better Offers

This suggests that pricing and hardware competitiveness play a major role in customer loyalty.

7.2 Demographic Analysis

- Customers aged 79–88 represent a small portion of the customer base but show the highest churn rate.

- This trend may be influenced by life-stage factors, reduced technology usage, or service accessibility challenges.

7.3 Data Usage Behavior

- Customers with the lowest data consumption were the most likely to churn, with churn rates approaching 35%.

- This indicates that low-engagement users may not perceive enough value from the service.

7.4 International Calls

The analysis examined whether customers with international activity or international plans demonstrated stronger loyalty. Findings suggested that international plans influenced customer retention differently across segments, highlighting the need for targeted plan offerings rather than one-size-fits-all solutions.

7.5 Contract Type and Customer Tenure

- Customers with 3–4 years tenure on a One-Year contract were significantly more likely to churn compared to those on Two-Year contracts.

- Longer contractual commitments were associated with higher retention.

This insight is particularly valuable for sales and marketing teams aiming to design retention incentives.

8. Dashboard Development

An Excel dashboard was created to present the findings in a clear and interactive manner. The dashboard included:

- Overall churn rate visualization

- Demographic segmentation charts

- Contract type comparisons

- Usage behavior analysis

- Key performance indicators (KPIs)

The dashboard enables quick interpretation of data and supports decision-making for non-technical stakeholders.

9. Business Recommendations

Based on the analysis, the following strategies are recommended:

1. **Promote Two-Year Contracts**
   Offer discounts or incentives to encourage longer commitments.

2. **Device Upgrade Programs**
   Counter competitor advantages by offering better or subsidized devices.

3. **Target Low-Usage Customers**
   Introduce personalized plans or engagement campaigns to increase perceived value.

4. **Senior Customer Support Initiatives**
   Provide simplified plans, customer service assistance, or loyalty benefits for older demographics.

5. **Competitive Pricing and Bundles**
   Regularly review competitor offers and introduce flexible bundles.

10. Skills Demonstrated

This project demonstrates proficiency in:

- Data Cleaning and Preparation

- Analytical Thinking

- Excel Formulas and Calculations

- Pivot Table Analysis

- Business Intelligence Concepts

- Dashboard Visualization

- Insight Communication

- Strategic Recommendation Development

11. Conclusion

This customer churn analysis project highlights the importance of structured data exploration and visualization in understanding business problems. By identifying key churn drivers such as competitor offerings, demographic trends, contract types, and usage behaviors, actionable strategies can be implemented to improve customer retention. The Excel dashboard and analytical process showcase practical data analytics skills applicable to real-world business scenarios.